

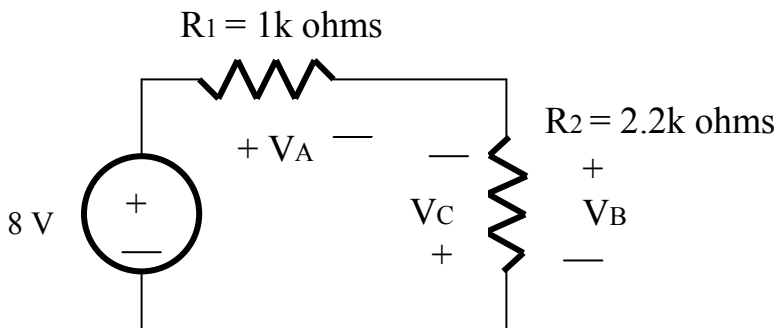
MUST 382 / EELE 491

Spring 2014

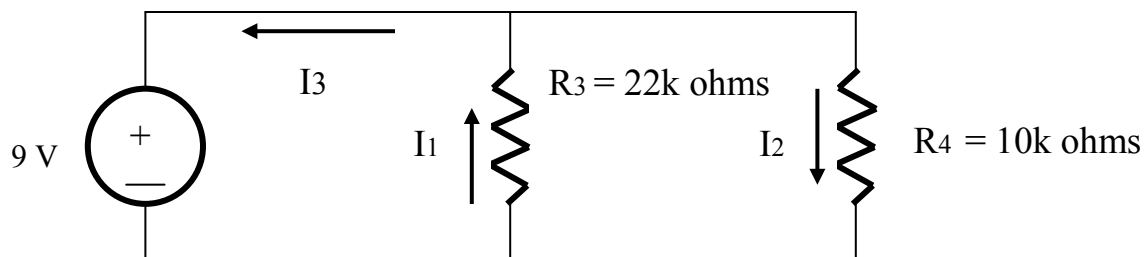
Lab experience #2

Procedures

P1. Construct the circuit shown in Fig. 1 on your prototype board. Use the lab power supply to provide the 8 volts and use the multimeter to accurately set the voltage to 8 volts. Measure voltages V_A , V_B , and V_C and record them on the figure (pay strict attention to the proper polarities). Also for each of these three measured voltages, show on the figure where the black and red wires from the multimeter were connected.

Fig. 1

P2. Construct the circuit shown in Fig. 2 on your prototype board. Use the lab power supply to provide the 9 volts and use the multimeter to accurately set the voltage to 9 volts. Measure currents I_1 , I_2 , and I_3 following the polarities shown in the figure and record your measurements on the figure next to each of these current labels. Also for each of these three measured currents, sketch the circuit diagram on the next page, showing how and where the multimeter was connected into your circuit, including identifying the polarity (red and black wires of the multimeter) on each sketch.

Fig. 2

Name: _____

Three sketches of the circuit showing how and where the multimeter is inserted to measure I_1 , I_2 , and I_3 .

P3. Use the function generator and the oscilloscope to produce and display the following waveforms:

- A sinusoid 2 volts peak to peak at 1000 Hz
What is the vertical scale (volts per division) and horizontal scale (time per division) when the display shows approximately one cycle of the waveform filling the entire screen?
- A sinusoid 4 volts peak to peak at 440 Hz
What is the vertical scale (volts per division) and horizontal scale (time per division) when the display shows approximately one cycle of the waveform filling the entire screen?
- A square wave 300 mV peak to peak at 20 kHz
What is the vertical scale (volts per division) and horizontal scale (time per division) when the display shows approximately one cycle of the waveform filling the entire screen?